

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

PRAKASH KHATRI

Application No.:

Group Art Unit:

Filed: Concurrently herewith

Examiner:

For: DRY THERMAL INTERFACE MATERIAL

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 CFR § 1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the subject application.

1. Enclosures accompanying this Information Disclosure Statement are:

- 1a. ☒ Form PTO-1449.
- 1b. ☐ Copies of IDS citations.
- 1c. ☐ An English language copy of search report(s) from a counterpart foreign application or a PCT International Search Report.
- 1d. ☐ English language translation (complete or relevant portion(s)) attached to each non-English language publication.
- 1e. ☐ Explanations of Relevancy of References (ATTACHMENT 1(e), hereto) for providing a concise explanation of each non-English publication.
- 1f. ☐ List of Copending Applications (ATTACHMENT 1(f), hereto).
- 1g. ☐ List of Additional Submitted Documents (ATTACHMENT 1(g), hereto).

2. ☒ This Information Disclosure Statement is filed under 37 CFR §1.97(b):

(Check either Item 2a or 2b or 2c or 2d)

- 2a. ☒ Within three months of the filing date of a national application other than a Continued Prosecution Application under § 1.53(d);
- 2b. ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application.
- 2c. ☐ Before the mailing of a first Office Action on the merits; or
- 2d. ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114.

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3. ☐ This Information Disclosure Statement is filed under 37 CFR § 1.97(c) after the period specified in paragraph 2 above but before the mailing date of any of a Final Office Action under § 1.113, a Notice of Allowance under § 1.311 or an action that otherwise closes prosecution in the application, AND

(Check either Item 3a or 3b; Item 3b to be checked if any reference known for more than 3 months)

- 3a. ☐ The §1.97(e) Statement in Item 5 below is applicable; OR
3b. ☐ The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:
☐ enclosed.
☐ to be charged to Deposit Account No. 19-3935.

4. ☐ This Information Disclosure Statement is filed under 37 CFR §1.97(d) after the period specified in paragraph 3 above, but on or before payment of the Issue Fee, AND

4a. ☐ The § 1.97(e) Statement in Item 5 below is applicable; AND

- 4b. ☐ The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:
☐ enclosed.
☐ to be charged to Deposit Account No. 19-3935.

5. ☐ Statement under § 1.97(e) *(applicable if Item 3a or Item 4a is checked)*
(Check either Item 5a or 5b)

- 5a. ☐ In accordance with 37 CFR § 1.97(e)(1), it is stated that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.
5b. ☐ In accordance with 37 CFR § 1.97(e)(2), it is stated that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known by any individual designated in §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

6. ☒ This is a continuation/divisional/continuation-in-part application under 37 CFR § 1.53(b).
(Check appropriate Items 6a and/or 6b)

- 6a. ☒ Copies of the publications listed on the attached Form PTO-1449 which were previously cited in prior application Serial No. 09/951,501, filed on September 14, 2001, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, have been omitted pursuant to 37 CFR § 1.98(d).
6b. ☐ Copies of the publications listed on the attached Form PTO-1449 which were not previously cited in prior application Serial No. ___, filed on ___, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, are provided herewith.

7. ☐ This is a continuation/divisional application under 37 CFR § 1.53(d) or a Request for Continued Examination under 37 CFR 1.114.

(Check either Item 7a or 7b)

- 7a. ☐ The Issue Fee has not been paid.

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- 7b. ☐ A Petition to Withdraw from issue under 37 CFR § 1.313(c) is filed concurrently herewith or has been granted. A continuation/divisional application under 37 CFR § 1.53(d) or a Request for Continued Examination under 37 CFR 1.114, after payment of the Issue Fee, is proper in accordance with 37 CFR § 1.53(d)(1)(ii) or 37 CFR 1.114(a), respectively.

8. ☐ This is a Supplemental Information Disclosure Statement.

(Check either Item 8a or 8b)

- 8a. ☐ This Supplemental Information Disclosure Statement under 37 CFR § 1.97(f) supplements the Information Disclosure Statement filed on _____. A bona fide attempt was made to comply with 37 CFR § 1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental IDS can be considered as if properly filed on _____.
- 8b. ☐ This Supplemental Information Disclosure Statement is timely filed within one (1) month of the Notice under 37 CFR § 1.97 and 1.98, mailed _____.

9. ☐ In accordance with 37 CFR § 1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:

(Check appropriate Items 9a, 9b, 9c and/or 9d)

- 9a. ☐ satisfied because all non-English language publications were cited on the enclosed "English language version of the search report or action which indicates the degree of relevance found by the foreign office". (See MPEP § 609, Minimum Requirements for an Information Disclosure Statement, Part A(3): Concise Explanation of Relevance, 8th Ed.)
- 9b. ☐ set forth in the application.
- 9c. ☐ satisfied because an English language translation (complete or relevant portion(s)) is attached to each non-English language publication.
- 9d. ☐ enclosed as Attachment 1(e), hereto.

10. No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than search report(s) from a counterpart foreign application or a PCT International Search Report, if submitted herewith). 37 CFR §§ 1.97(g) and (h).

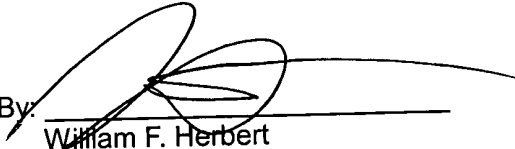
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11. The Commissioner is authorized to credit any overpayment or charge any additional fee required under 37 CFR § 1.17 for this Information Disclosure Statement to Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Dated: 7/3/13
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William F. Herbert
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FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO.	APPLICATION NO.
		1607.1001 CIP/C	
		FIRST NAMED INVENTOR	
		Prakash Khatri	
LIST OF REFERENCES CITED BY APPLICANT (Use several sheets if necessary)		FILING DATE	GROUP ART UNIT
		July 3, 2003	

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA	3,669,884	6/13/72	Wright	252	36	
	AB	4,738,737	4/19/88	Runde et al.	156	91	
	AC	4,803,100	2/7/89	Ameen et al.	427	387	
	AD	5,167,851	12/1/92	Jamison et al.	252	74	
	AE	5,194,480	3/16/93	Block et al.			
	AF	5,250,209	10/5/93	Jamison et al.	252	74	
	AG	5,298,791	3/29/94	Liberty et al.	257	707	
	AH	5,904,796	5/18/99	Freuler et al.	156	278	
	AI	6,049,458	4/11/00	Lee et al.	361	705	
	AJ	6,054,198	4/25/00	Bunyan et al.	428	40.5	
	AK	6,059,116	5/9/00	Hinshaw et al.	206	714	
	AL	6,114,429	9/5/00	Yamada, et al.	524	432	
	AM	6,143,076	11/7/00	Rasmussen, et al.	118	411	
	AN	6,174,841	1/01	Yamada et al.	508	172	
	AO	6,255,257	7/01	Yamada et al.	508	172	
	AP	6,286,212	9/01	Easton	29	890.03	
	AQ	6,475,962	11/02	Khatri	508	161	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION YES NO	
	AR	WO/00/36893	6/22/00	WIPO				
	AS	EP 0906945	4/7/99	EPC				

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AT	Advanced Thermal Interface Material: 'Dry-To-The-Touch' Thermal Grease by Khatri and Ziemski, March, 2001.
	AU	"Sprayable Thermal Grease Dramatically Reduces Labor While Offering Other Unique Advantages" by Khatri and Ziemski, 1999.
	AV	Article entitled, "Thermal Isolators", <u>PCIM</u> , April 1999 (pp. 57-61)
	AW	Chomerics Technical Bulletin 69, "CHO-TERM T500", 10/99 (2pgs)
	AX	Power Devices, Inc. "Powerstrate" Advertisement (1 pg.), date unknown
	AY	Article entitled, "Differential Phase Change Thermal Interface Materials", Technological Horizons (2 pgs.), date unknown
	AZ	Article entitled "Thermal Gap Fillers," <u>PCIM</u> , September 1999 (pp. 24-25, 27)
	BA	Article entitled "Navigating the Maze of Thermal Interface Materials," Electronic Product Supplement, (http://www.electronicproducts.com) Fall, 1999 (5 pp.)
	BB	Article entitled "Thermal Resistance of Interface Materials as a Function of Pressure," Latham, (2 pp.), (http://www.electronics-cooling.com/Resources/EC_Articles/SEP96/sep96_tb.htm).
	BC	Wakefield Engineering advertisement "Thermal Compounds, Adhesives, Interface Materials, Hardware, Installation Tools (1 pg.), believed dated 1997 or before.
	BD	Bergquist Company Brochure "Sil-Pad Design Guide" 1997-1998 (1 pg.)
	BE	Chomerics Company (Division of Parker-Hannifin) Advertisement, (1 pg.), from <u>Electronics Cooling</u> , Vol. 7, No. 1, February 2001
	BF	Fujipoly Company advertisement from <u>PCIM</u> , January 2000, page 14
	BG	MHW brochure regarding Keratherm® (2 pp.), February 1999
	BH	MHW International Corp. advertisement from <u>Electronics Cooling</u> , Vol. 7, No. 1, February 2001, page 13
	BI	W.L. Gore & Assoc. advertisement (1 pg.) from <u>Electronic Packaging and Production</u> , June 2001
	BJ	Emerson & Cuming (division of National Starch and Chemical Company), advertisement (1 pg.)
	BK	Honeywell advertisement (1 pg.) from <u>Electronics Cooling</u> , Vol. 7, No. 1, February 2001

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SHEET 3 OF 3

BL	"Electrolube's Unique Heat Transfer Compound Aerosol Optimises Board Thermal Performance," July 28, 2000 website pages (5 pp.)
BM	AOS brochure describing thermal greases.
BN	Article entitled "Attaching Heat Sinks to Components," <u>Electronic Packaging & Production</u> , pp. 42-46, July 1997
BO	Article entitled "Thermal Interface Materials," deSorgo et al., found at http://www.cooling-electronics.com/Resources/EC_Articles/SEP96/sep96_01.htm (6 pp.)
BP	Article entitled "Thermal Management Materials and Designs," <u>Electronic Packaging and Production</u> , October 2000 (pgs. 50-57).
BQ	Thermalloy Company Press Release (1 pg.), December 18, 1996.
BR	Article entitled "Cooling Technologies - Work With Microprocessors Points the Way to Thermal Management Improvements for Power Semiconductors," <u>PCIM</u> , May 1999 (6 pp.)
BS	Article entitled "Test Methods for Characterizing the Thermal Transmission Properties of Phase-change Thermal Interface Materials," (http://www.electronics-cooling.com/html1/1999_may_article1.html), May 1999 (9 pp.)
BT	Brochure for Thermagon Company (5 pp.), ©1997.
BU	Brochure for Orcus, Inc., (3 pp.), ©1998.
BV	Brochure for Bergquist Company (5 pp.), ©1998.
BW	Advertisement for Bergquist Company "Thermal Performance you must see to believe," (1 pg.), undated
BX	Brochure for Power Devices Company (11 pp.), ©1996
BY	Brochure for Chomerics Company (6 pp.), October 1999
BZ	Advertisement for Chomerics Company's "Therm-A-Gap" Gap Filling Materials, (1 pg.), October 1999
CA	Advertisement for "GAP PAD VO," (1 pg.), undated
CB	Advertisement for Fujipoly Company's "SARCON Thermal Management Components," (1 pg.), undated.
CC	Advertisement for Fujipoly Company's "SARCON Heat Sink Gel Pads," (1 pg.), undated
CD	Abstract regarding WO 0036893, entitled, "Method of Applying a Phase-Change Thermal Interface Material" published June 22, 2000 (1 pg.)